

### Abstract

This disclosure describes the design and construction of high-precision off-axis optical imaging systems. The disclosure also describes the design and construction of high-precision mounting structures for rigidly holding optical elements in an optical imaging system. The disclosure further describes both a mechanism for highly stable mounting and a technique for high precision focusing of a detector in a complex optical setup. The disclosure even further describes both tooling and a technique used for focusing high precision optical imaging systems. The theory and use of at least these concepts are introduced by examining how these concepts aid the construction and use of a non-contact laser scanning system.